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ART 21.2

We claim

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1. Process for preparing a solid material containing at least one zeolite and being at least partly crystalline, characterized in that a step (I) of an at least partial crystallization of at least one solid material containing at least one zeolite out of a synthesis mixture involves at least one partial step of contacting at least one transition metal oxide source with at least one epoxide or hydrolysate thereof prior to or during the at least partial crystallization of said synthesis mixture into said solid material.

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2. Process according to claim 1, characterized in that step (I) comprises at least the following partial steps

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(I a) mixing of at least one hydrolyzable silicon source with a mineralizing and/or structuring agent and water;

(I b) mixing of at least one transition metal oxide source with an epoxide or a hydrolysate thereof;

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(I c) mixing of the mixtures from (I a) and (I b) so that at least a part of the hydrolyzable compounds hydrolyzes;

(I d) distilling at least parts of the alcohol that has been formed as a result of the at least partial hydrolysis of at least part of the hydrolyzable compounds;

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(I e) adding water to the bottom of (I d);

(I f) reacting of the synthesis mixture resulting from (I e) at a temperature elevated with respect to room temperature.

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3. Process according to claim 2, characterized in that the hydrolyzable silicon source comprises at least one silicon oxide, the mineralizing and/or structuring agent

comprises at least one tetraalkylammonium hydroxide, the transition metal oxide source comprises at least one titanate and the epoxide or hydrolysate thereof comprises at least the epoxide or the hydrolysate thereof of the reaction the solid material is ultimately employed for as a catalyst.

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4. Process according to claim 3, characterized in that the hydrolyzable silicon source comprises at least tetraethoxy silicate, the mineralizing and/or structuring agent comprises at least tetrapropylammonium hydroxide, the transition metal oxide source comprises at least tetrabutylorthotitanate and the epoxide or the hydrolysate thereof comprises at least propylene oxide or propylene glycol.

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5. Process according to any of claims 1 to 4, characterized in that the at least one zeolite belongs to at least one of the following structure classes: MFI, MEL, MWW, BEA or any mixed structure thereof.

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6. Integrated process for the production of a solid material containing at least one zeolite, comprising at least the following steps

(I) at least partial crystallization of at least one solid material containing at least one zeolite out of a synthesis mixture, according to any of claims 1 to 5, resulting in mixture (I) containing at least said solid material and a mother liquor;

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(II) separating and/or concentrating of the solid material in mixture (I).

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7. Integrated process according to claim 6, characterized in that, after step (II), at least one of the following two additional steps is performed:

(W) bringing the solid material from step (II) in contact with a composition containing water;

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(III) agglomerating or granulating or agglomerating and granulating of the solid material from step (W) or from step (II).

5 8. Integrated process according to claim 7, characterized in that, after step (W), the solid material is separated from at least parts of the composition containing water.

9. Integrated process for the production of a shaped body containing at least one zeolite, comprising at least the following steps

10 (I) at least partial crystallization of at least one solid material containing at least one zeolite out of a synthesis mixture, as described in any of claims 1 to 5, resulting in mixture (I) containing at least said solid material and a mother liquor;

15 (II) separating and/or concentrating of the solid material in mixture (I);

(III) agglomerating, or granulating, or agglomerating and granulating of the solid material from step (W);

20 (S) shaping of the solid material from step (II) or (III).

10. Integrated process according to claim 9, characterized in that the following step (W) is performed after step (II), or after step (S), or after step (II) and after step (S)

25 (W) bringing the solid material from step (II) or the shaped body from step (S) in contact with a composition containing water.

30 11. Integrated process according to claim 9 or 10, characterized in that the at least one step of shaping the solid material is selected from the following group comprising pelletizing, pressing, extruding, sintering, roasting, briquetting.

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12. Integrated process according to claim 11, characterized in that before, or during, or before and during the step (S) of shaping the solid material, a binding material is added to said solid material.
- 5 13. Integrated Process according to any of claims 6 to 12, characterized in that after at least one of the steps (II), (W), (III) or (S), a step (C) of calcining the solid material or the shaped body or the solid material and the shaped body is performed.
- 10 14. Integrated process according to claim 13, characterized in that said step of calcining is performed at temperatures higher than 400°C.
- 15 15. Solid material containing at least one zeolite obtainable by a process of treating a synthesis mixture, characterized in that a step (I) of an at least partial crystallization of at least one solid material containing at least one zeolite out of a synthesis mixture involves at least one partial step of contacting at least one transition metal oxide source with at least one epoxide or hydrolysate thereof prior to or during the at least partial crystallization of said synthesis mixture into said solid material.
- 20 16. Solid material according to claim 15, characterized in that step (I) comprises at least the following partial steps
- (I a) mixing of at least one hydrolyzable silicon source with a mineralizing and/or structuring agent and water;
 - (I b) mixing of at least one transition metal oxide source with an epoxide or a hydrolysate thereof;
 - (I c) mixing of the mixtures from (I a) and (I b) so that at least a part of the hydrolyzable compounds hydrolyzes;
 - (I d) distilling at least parts of the alcohol that has been formed as a result of the at least partial hydrolysatation of at least part of the hydrolyzable compounds;
 - (I e) adding water to the bottom of (I d);

(I f) reacting of the synthesis mixture resulting from (I e) at a temperature elevated with respect to room temperature.

17. Solid material according to claim 15 or 16, characterized in that it contains Ti.

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18. Solid material according to any of the claims 15 to 17, characterized in that it is shaped into a shaped body.

19. Use of the solid material according to any of the claims 15 to 18 or of the solid material obtained according to any of the claims 1 to 14 as a catalyst or a co-catalyst in the reaction of at least one compound having at least one C-C-double bond with at least one hydroperoxide.

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